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ABSTRACT

The Dallas School Accountability Program is described, and a step-by-step method for determining how well a school performs relative to other schools is presented. The Dallas program is a two-part program. Beginning with criterion-based improvement plans, goal levels are set by determining the discrepancy between the actual and desired levels of student accomplishment and projecting these levels over a 5-year period so that actual and desired levels become the same. Norm-referenced expectations are also established. The school effectiveness methodology defines a school's effectiveness as being associated with exceptional measured performance above or below that which would be expected across the district. Procedures involve regression analysis to compute prediction equations by grade level or by school for each outcome variable independent of school identification and then using these equations within schools to obtain mean gains over expectations. A major feature of the approach involves assigning relative weights to each of the outcomes. An 11-step methodology is detailed. An attachment describes the school performance improvement awards for 1993-94. (Contains 14 references.) (SLD)

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TM 022681

Identifying and Rewarding Effective Schools: The Dallas School Accountability Program¹

William J. Webster and Robert L. Mendro
Dallas Independent School District

The Dallas School Accountability Program is a two-part program. The District and School Improvement Plans are criterion-based. That is, the goals are absolute. They take current student achievement levels into consideration and project progress over a five-year period. School staffs work to achieve these goals. School and District Improvement Plans include goals in the following areas:

- Improve language arts skills (vocabulary, reading, oral competency, and writing skills, particularly TAAS objectives)
- Improve mathematics problem-solving, concept, and computational skills, particularly TAAS objectives
- Improve social studies skills, particularly TAAS objectives
- Improve science skills, particularly TAAS objectives
- Increase parent/community involvement
- Improve school climate and safety
- Improve attendance (student and teacher)
- Facilitate dropout reduction and recovery ^a
- Increase promotion/course passing rate
- Increase enrollment in advanced courses, diploma plans, and honors programs ^a
- Increase college entrance test participation/performance ^b

^a Applicable to middle and high schools only

^b Applicable to high schools only

Goal levels are set by determining the discrepancy between actual and desired levels of student accomplishment and projecting actual levels over a five-year period so that actual and desired levels are the same. The main problem with this approach is that the goals are not empirically set based on reasonable expectations, thus requiring the lowest achieving students to show the greatest amount of improvement. Those are the very students that have the most difficulty showing improvement and, therefore, the students whose schools should be rewarded if they show significant improvement.

The second and most important part of the program, from the standpoint of improvement, is norm-referenced. That is, expectations are set based on empirically determined predictions. The schools that are leading the others in improving student achievement set the expectations for the other schools. That is, expectations are set based on best practice. School staffs know that the expectations are possible because some schools are actually achieving them. This is the effectiveness index part of the accountability system.

¹ Presentation at a "Share the Success Seminar," NSBA, April 10, 1994.

It is important to stress that the effectiveness indices are norm-referenced. That is, in order for one school to rank high, another must rank low. If the District has a year in which marked improvement occurs, ranking low on the effectiveness indices is not nearly as disastrous as ranking low on those same indices when the District has a mediocre year. Thus, school ranks based on the effectiveness indices must be interpreted in light of improvement, or lack of improvement, on the goals specified in the School Improvement Plans.

This handout will attempt to explain how the methodology works without the mathematical notation that usually accompanies such explanations. The procedure is outlined in a step-by-step fashion and the authors attempt to explain why each step is necessary. For those interested in the math, there is a list of source documents at the end of this paper. Also available at this seminar is the actual brochure on the Dallas School Improvement Awards.

Most equations are computed on an individual student basis. There are some school level variables that are also included (promotion rate, graduation rate, dropout rate, SAT and PSAT percent tested, percent in accelerated courses, and percent in advanced diploma plans). All other variables are analyzed on a student-by-student basis. All equations are designed to reward improvement rather than absolute outcome levels.

The school effectiveness methodology defines a school's effectiveness as being associated with exceptional measured performance above or below that which would be expected across the entire District. When a school's population of students departs markedly from its own preestablished trend or from the more general trend of similar students throughout the District, this departure is attributed to school effect. The problem of measuring a school's effect, then, becomes one of establishing the student levels of accomplishment on the various important outcome variables, setting levels of performance based on these expectations, and determining the extent to which its students, on the average, exceed or fall short of expectation. The procedures involve regression analysis to compute prediction equations by grade level or by school for each outcome variable independent of school identification and then using these equations within schools to obtain mean gains over expectations. A major feature of this approach also involves assigning relative weights to each of the outcomes. Once weighted levels of performance have been determined, the methodology provides an indicator of how well a school performs relative to other schools throughout the District. A step-by-step description of the process follows, along with associated reasons for each step.

Step 1. Appoint or elect an Accountability Task Force. This Task Force should have representatives from all constituencies involved with the school District and be charged with the responsibility of overseeing the accountability system. The Accountability Task Force deals with many aspects of the accountability system including methodology, testing, determining and weighting important performance variables, and determining the rules for financial awards related to the system.

Why? To the degree that educational goals vary, school effectiveness has limited meaning. Therefore, the first step in developing methodology to identify effective

schools must be the development of a community consensus as to the important goals of schools.

Step 2. Determine eligible students for each criterion variable. Eligible students include all students who:

- are enrolled continuously in a specific school from the end of the first six weeks, and
- have the necessary preobservation data in the DISD and post-observation data for the appropriate school year in that specific school, and
- are eligible for the testing program according to the DISD Systemwide Testing Policy (on the testing variables).

All eligible students will be included in the cohort longitudinal analysis. Thus, in order to be included as a member of a given school's cohort, a student must be enrolled in that school by the end of the first six weeks, have the necessary preobservation data, and be tested in that school in accordance with DISD policy through the systemwide testing program. Students who transfer out of a school and back into that school over a short period of time will be included in that school's cohort. The definition of a "short period of time" is subject to change based on empirical data. Schools that, in the opinion of the Accountability Task Force, attempt to manipulate their continuously enrolled student population will be disqualified from the Awards Program.

Why?

Schools are only held accountable for the outcome levels of students who have been exposed to that school's instructional program. That is, schools are only held accountable for their continuously enrolled students. Since all equations are based on growth, and therefore require a baseline, preobservation data must be available.

Step 3. Regress each of the student level predictor and each of the criterion variables on the background variables. (Background variables include main effects and all possible interactions for student level variables - gender, ethnicity, Limited English Proficiency status, socioeconomic status - and main effects for the school level variables - overcrowdedness and mobility statistics.) Obtain residuals for each student level criterion and predictor variable.

Why? This procedure removes the variance accounted for by important background variables over which the schools have no control. This "levels the playing field" and addresses practitioners' concerns about the impact of background variables on outcomes for which they are held accountable. Background variables generally account for 15-20 percent of the variance in student achievement and other outcomes.

Step 4. Divide the predictor space into 256 arrays. Standardize the residuals for both the predictor and criterion variables.

Why? This procedure assures that schools that have unusual numbers of students in certain areas of the predictor space will not be ranked based on differential variance in different arrays. Assures array homogeneity of mean and variance.

Step 5. Use standardized residuals to develop the next level of equations (both predictor and criterion variables are residuals).

Why? After accounting for variance due to the background variables, there is still considerable variation due to individual student ability levels. Accounting for the variation in the next level assures that schools are not penalized or rewarded for the ability levels of the students who walk in their door, rather than the schools' own effect on these students.

Step 6. Carefully examine the data. Utilize an all-possible regressions procedure to arrive at the best models for predicting the various residualized criterion variables from the best residualized predictors. Through examination, preserve the maximum number of students with the maximum amount of variance accounted for. Scrutinize the percentage of loss in the number of students versus the percentage of gain in predictability. Make sure the relationships are linear. If not, use an appropriate transformation. Obtain residuals for each student on each outcome variable.

Why? This procedure assures that one has the best equations to predict growth, or lack of same, and establish individual predictions for each student. According to Bryk and Raudenbush (1993), good data analysis begins with a careful examination of the univariate frequency distribution of each variable that may be employed in a subsequent multivariate analysis. Examination of the shape and scale of each variable provides a check on the quality of the data, identifies outlying observations, and may suggest a need for a variable transformation. The next step in model building involves exploration of the bivariate relationships. Plots of two continuous variables can identify possible nonlinear relationships and identify discrepant cases that could arise from some erroneous observations.

Note: Only one year of historical data are used. That is, a stepwise regression approach is used on the residuals of multiple predictors so that, in most cases, satisfactory prediction is achieved without having to go back more than one year. This maintains the degrees of freedom associated with the equations since, in an urban district, each additional year of data used significantly reduces the degrees of freedom associated with the equations.

Step 7. Divide the predictor space into 256 arrays. Standardize the residuals for each of the criterion variables.

Why? This procedure assures that schools derive no particular advantage by starting with high-scoring or low-scoring students or with students at a particular point in the predictor space. While the equations in Step 6 established individual expectations for each student based on that student's performance on the predictor(s) of interest and determined that lower scoring students have lower predicted scores and higher scoring students have higher predicted scores, this step assures that schools will not be advantaged or disadvantaged by differential variance in the predictor space at different points along the regression line.

Step 8. Associate individual student residuals with schools. Obtain mean residuals on each of the criterion variables.

Why? This produces a gross estimate of school effect. The more positive the mean residuals, the more effective the school, that is, the more the school's students exceeded prediction on the outcome variables of interest. The equations account for the variance associated with background variables and with previous achievement levels. What is left is teacher effect, school effect, and error.

Step 9. Multiply the mean residuals associated with the schools by $\sqrt{n}$.

Why? Intuitively speaking, this procedure weights the results by the size of the school. That is, larger schools are given more weight for their accomplishments because it is harder to move larger groups of students. Statistically speaking, this procedure equalizes the variance of the different school means.

Step 10. Restandardize the distribution of mean residuals on each criterion variable to a mean of 50 and a standard deviation of 10.

Why? After Step 9, distributions of mean residuals no longer have identical means and variances. Before Step 11 can be accomplished (weighting and combining variables) all distributions must have equal means and variances.

Step 11. Multiply mean standardized residuals by the appropriate weight assigned by the Accountability Task Force and aggregate for each school.

Why? This allows the variables to be weighted on the basis of perceived importance by District constituents, i.e., the Accountability Task Force.

References

The following references provide additional information on the methodology. Those that are asterisked are available from the Dallas Independent School District, 3700 Ross Avenue, Dallas, Texas 75204.

- Aiken, L. S. and West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*, Newbury Park: Sage.
- Bryk, A. S. and Raudenbush, S. W. (1992). *Hierarchical Linear Models*, Newbury Park, California: Sage.
- Draper, N. R. and Smith, H. (1968). *Applied Regression Analysis*, New York: Wiley.
- May, J. (1990). *Real World Considerations in the Development of an Effective School Incentive Program*, ERIC ED 320 271.
- * Mendro, R. L. and Webster, W. J. (1993). *Using School Effectiveness Indices to Identify and Reward Effective Schools*, Rocky Mountain Educational Research Association.
- * Mitchell, N. (1993). *An Application of Canonical Correlation To Study School Effectiveness*, Rocky Mountain Educational Research Association.
- Ortiz, M. O. and Almaguer, T. (1993) *An Application of Hierarchical Linear Models To Study School Effectiveness*, Rocky Mountain Educational Research Association.
- Sanders, W. L. and Horn, Sandra P. (1992). *The Tennessee Value-Added Assessment System (TUASS): Mixed Model Methodology In Educational Assessment*, unpublished paper.
- * Webster, W. J. and Edwards, M. E. (1993). *An Accountability System for School Improvement*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, Georgia, April 12-16, 1993, ERIC TM 019 915.
- * Webster, W. J. and Mendro, R. L. (1993). *School Effectiveness Indices Within the Context of a Comprehensive Accountability System*, Rocky Mountain Educational Research Association.
- * Webster, W. J. and Mendro, R. L. (1994). *Effectiveness Indices and Cash Rewards: The Secret of Success for Dallas' School Accountability Program*, Texas Education Agency Mid-winter Conference.
- * Webster, W. J., Mendro, R. L., and Almaguer, T. (1993). *Effectiveness Indices: The Major Component of an Equitable Accountability System*, ERIC TM 019 913.
- Webster, W. J., Mendro, R. L., and Almaguer, T. (1994). *Effectiveness Indices: A "Value Added" Approach To Measuring School Effect*, Studies In Educational Evaluation, 20, 113-145.
- * Webster, W. J. and Olson, G. H. (1988). *A Quantitative Procedure for the Identification of Effective Schools*. Journal of Experimental Education, 56, 213-219.



School Performance Improvement Awards

1993-94

Dallas Independent School District

**SCHOOL PERFORMANCE IMPROVEMENT AWARDS
1993-94**

One of the key ingredients of the Commission for Educational Excellence's recommendations was an awards plan for effective schools. For 1993-94, the Dallas Independent School District (DISD) has budgeted 1.8 million dollars for this system. The community will raise \$600,000, making a total availability of 2.4 million dollars. The selection procedure for determining which schools win is completely objective and is designed to award schools and school staffs that show the most improvement on important outcomes of schooling.

1.0 Outcome Variables

For the 1993-94 school year, awards will be based on school improvement on the following variables:

1.1 *Elementary Schools*

- 1.1.1 Student scores on the Reading and Mathematics subtests, Iowa Tests of Basic Skills (ITBS) at grades 1 and 2.
- 1.1.2 ITBS Reading and Mathematics subtests, grades 3-6 (ITBS survey forms that sample items and take 70 minutes to complete).
- 1.1.3 The Spanish Assessment of Basic Education (SABE) will be administered in Reading and Mathematics to Spanish-Dominant Limited English proficient students who are judged by the LPAC to be incapable of taking the ITBS or TAAS.
- 1.1.4 Student scores on the Texas Assessment Of Academic Skills (TAAS), Grades 3-6, Reading and Mathematics subtests and Grade 4 Writing, Social Studies and Science subtests.
- 1.1.5 Student Attendance
- 1.1.6 Promotion Rate (percentage of students promoted, summer school doesn't count).

1.2 *Middle Schools*

- 1.2.1 Student scores on the TAAS Reading and Mathematics subtests at Grades 7-8 and student scores on Grade 8 Writing, Social Studies and Science subtests.
- 1.2.2 ITBS Reading and Mathematics subtests, grades 7-8 (ITBS survey forms that sample items and take 70 minutes to complete).
- 1.2.3 Second semester student ACP scores in ESOL I, II, and/or III if student is LEP and ineligible for TAAS.
- 1.2.4 Promotion Rate (percentage of students promoted, summer school doesn't count).
- 1.2.5 Student Attendance
- 1.2.6 1992-93 Dropout Rate. Dropout rate, because of the time-lag nature of the variable, has a low weight for 1993-94. It is anticipated that this weight will increase in future years.
- 1.2.7 Student enrollment in accelerated courses. Middle school accelerated courses are defined in Section 8.0 of this document.

1.3 *High Schools*

- 1.3.1 Student scores on the TAAS, Grade 10, Reading, Writing, and Mathematics subtests.
- 1.3.2 TAP Reading and Mathematics subtests, grade 9 (TAP survey forms that sample items and take 70 minutes to complete).
- 1.3.3 First and second semester student ACP scores in language arts, mathematics, social studies, science, World Languages, ESOL and, Reading. The State criterion referenced tests will replace the second semester ACP in Algebra I and Biology I.
- 1.3.4 First and second semester ACP scores in honors and advanced mathematics, language arts, social studies, and science. Honors and advanced courses for which there are ACP's include those courses that are asterisked in Section 8.0 of this document.
- 1.3.5 Percentage of seniors who have ever taken the Scholastic Aptitude Test (SAT).

- 1.3.6 Senior SAT Achievement on the Verbal and Quantitative subtests (highest score, whether it was attained as a sophomore, junior, or senior).
- 1.3.7 Percentage of students who ever took the PSAT.
- 1.3.8 PSAT achievement on the Verbal and Quantitative subtests.
- 1.3.9 Student Attendance
- 1.3.10 Student Graduation Rate (the percent of students who graduate by the Spring semester five years after they enrolled in the ninth grade). Since graduation rate is a school-level variable, emphasis is on improvement in the school's graduation rate over last year.
- 1.3.11 1992-93 Dropout Rate. Dropout rate, because of the time-lag nature of the variable, has a low weight for 1993-94. It is anticipated that this weight will increase in future years.
- 1.3.12 Student enrollment in accelerated courses. High school accelerated courses are defined in Section 8.0 of this document.
- 1.3.13 Student enrollment in advanced diploma plans at the ninth and tenth grade levels.

2.0 Qualifying Schools

All schools that have the necessary outcome data and all students will be included in the outcome equations. However, in order to be eligible for a School Performance Improvement Award all schools must:

- 2.1 Test at least 95% of their eligible continuously enrolled students or increase their percent eligible continuously enrolled students tested over Spring, 1993. These statistics refer to percent tested on the TAAS and the ITBS/TAP survey forms. If TEA does not provide adequate time for makeup, schools will have to test at least their percent average daily attendance (up to 95%) on the TAAS. Students at the School Community Guidance Center (SCGC) will be tested and attributed to their home schools.
- 2.2 Exceed the national norm group growth curves, or be above the national norm group, in at least 50% of school cohorts on the ITBS and TAP.

If a school does not meet each of the aforementioned criteria, it will not be eligible for a School Performance Improvement Award.

3.0 Establishing School Cohorts

Since the School Performance Improvement Award is based entirely on student outcomes (once a school has qualified) it is important to specify which students will be included in the various cohorts. Therefore:

3.1 *Establishing School Cohorts*

All students who:

- 3.1.1 are enrolled continuously in a specific school from the end of the first six weeks, and
- 3.1.2 have the necessary pre-observation data in the DISD and post-observation data for the 1993-94 school year in that specific school, and
- 3.1.3 are eligible for the testing program according to the DISD Systemwide Testing Policy (on the testing variables) will be included in the cohort longitudinal analysis. Thus, in order to be included as a member of a given school's cohort, a student must be enrolled in that school by the end of the first six weeks, have the necessary pre-observation data, and be tested in that school in accordance with DISD policy through the systemwide testing program. Students who transfer out of a school and back into that school over a short period of time will be included in that school's cohort. The definition of a "short period of time" is subject to change based on empirical data. Schools that, in the opinion of the Accountability Task Force, attempt to manipulate their continuously enrolled student population will be disqualified from the Awards Program.

4.0 Qualifying Staff for Awards

Once a school has been empirically selected for a School Performance Improvement Award, the school will receive \$2000 to be spent in a manner, other than compensation, to be determined by the School Community Council (SCC) Committee in School Centered Education (SCE) schools or the Faculty/Staff Advisory Committee in non-SCE schools. Performance awards will also be distributed in the form of compensation to the staff of winning schools based on the following criteria.

4.1 Eligible Staff

- 4.1.1 Principals will be eligible to receive a stipend.
- 4.1.2 All campus personnel will be eligible to receive a stipend if they are full-time professional or support personnel who are assigned to a single campus and are evaluated by a local campus administrator.
- 4.1.3 Professional or support personnel who are assigned to more than one campus and evaluated by one or more campus administrator(s) will receive a pro rata share of the stipend. Proration will be based on the percentage of time assigned to one or more winning schools.
- 4.1.4 In circumstances where there are variable hours worked within an employee classification the employee will receive a pro rata share based on the percentage they work of the standard work day of their respective classification.

4.2 Successful Evaluation

Individuals must be evaluated "Meets Expectations" or above in order to participate in monetary awards.

4.3 Stipends

4.3.1 Professional Staff

Stipends will be paid to professional staff who are assigned to winning schools. The amount of the stipend will be determined by the considerations specified in Section 4.1 and by attendance during the contract year.

4.3.1.1 Attendance

Eligible professional staff who are present all contract days of the school year, receive a "Meets Expectations" or above evaluation, and meet requirements 4.1.1 or 4.1.2 will receive a stipend of \$1,000. Professional staff who are not present all contract days will receive an award of one thousand dollars minus five dollars per day for every contract day absent. If professional staff are not full-time at a winning school, their share will be calculated in the manner specified in 4.1.3 or 4.1.4.

4.3.2 Support Staff

Stipends will be paid to support staff who are assigned to winning schools. The amount of the stipend will be determined by the considerations specified in Section 4.1 and by attendance during the contract year.

4.3.2.1 Attendance

Eligible support staff who are present all contract days of the school year, receive a "Meets Expectations" evaluation or above, and meet requirements 4.1.1 or 4.1.2 will receive a stipend of \$500. Support staff who are not present all contract days will receive an award of five hundred dollars minus \$2.50 per day for every contract day absent. If support staff are not full-time at a winning school, their share will be calculated in the manner specified in 4.1.3 or 4.1.4.

5.0 Number of Winning Schools

The number of winning schools will depend on the size of the schools that win. There will be approximately 1,850 winning professional and 800 winning support personnel. The determining factor will be the number of staff associated with winning schools that can be awarded stipends of up to \$1,000 and \$500 for professional and support personnel, respectively, within the available 2.4 million dollars. (If a large number of large schools win, fewer schools will be included in the awards. Conversely, if a large number of small schools win, more schools will be included in the awards).

6.0 Establishing Appropriate Comparisons

In order to allow all school configurations a reasonable chance of receiving a School Performance Improvement Award, District schools will be chosen according to the following categories:

6.1 Categories for Comparison

		<u>Grade Level</u>
6.1		PK-3
6.2		4-6
6.3		PK-6
6.4		7-8
6.5		9-12
6.6	15	Magnets

6.7	Acadamies
6.8	Special Schools (Health Special, Evening School, Science Magnet)

The amount of money available for each level will be determined by the percentage of school-based professional personnel employed at each level.

6.2 Magnets and Academies

Magnets and Academies will be treated as separate programs at the appropriate level if they have separate teaching and administrative staffs. Magnets include Arts, Business, Education, Government, Health Professions, and TAG. Academies include Edison, Holmes, Hotchkiss, Longfellow, Spence, and Stone. Vanguardians will not be analyzed separately but rather will be included with their home school.

6.3 Schools Not Meeting Standard Criteria

Several schools have insufficient data on one or more critical variables included in the school effectiveness indices and therefore cannot be included in the Award Program. These schools are not included in the regular process due to the nature of the school or the student enrollment at the school. In either case, school effects cannot be computed using the procedures proposed for the school effectiveness indices. The schools which are not yet included in the process for 1992-93 are:

E. D. Walker Special Education Center
Multiple Career Center
Alternative Academic Cooperative Center
Metropolitan Education Center
School Community Guidance Center
Letot Academy
Brashear
Quentin D. Corley Academy
Edison Work Activity Center

6.4 Employees Not Meeting Standard Criteria

Classifications of employees who are, because of budgetary or supervisory criteria, excluded from participation in this program are invited to submit ideas and/or proposals that might achieve the same goals for their respective groups. These proposals should be submitted to Robby Collins, Division Executive, Personnel/Governmental/Internal Relations, 3700 Ross Avenue, Box 9. All proposals will be considered by the Accountability Task Force for possible implementation.

7.0 The Equations

The school effectiveness methodology defines a school's effectiveness as being associated with exceptional measured performance above or below that which would be expected across the entire District. When a school's population of students departs markedly from its own pre-established trend or from the more general trend of similar students throughout the District, this departure is attributed to school effect. The problem of measuring a school's effect, then, becomes one of establishing the student levels of accomplishment on the various important outcome variables, setting levels of performance based on these expectations, and determining the extent to which its students, on the average, exceed or fall short of expectation. The procedures involve regression analysis to compute prediction equations by grade level or by school for each outcome variable independent of school identification and then using these equations within schools to obtain mean gains over expectations. A major feature of this approach also involves assigning relative weights to each of the outcomes. Once weighted levels of performance have been determined, the methodology provides an indicator of how well a school performs relative to other schools throughout the District. Important characteristics of the methodology include:

- 7.1 Schools are only held accountable for the outcome levels of students who have been exposed to that school's instructional program. That is, schools are only held accountable for their continuously enrolled students.
- 7.2 The influence of important background variables of students, over which the schools have no control, are eliminated from the equations. That is, each predictor and outcome variable is regressed on the set of background variables (ethnicity, gender, limited English proficiency status, and free or reduced lunch status) and residuals from these regressions then become the predictor and criterion variables for the next level of prediction. This "levels the playing field" and addresses practitioners' concerns about the impact of background variables on outcomes. School level fairness variables include student mobility and overcrowding conditions.

- 7.3 The outcome variables are weighted by the Accountability Task Force.
- 7.4 Schools derive no advantage by starting with high-scoring or low-scoring students. That is, the equations set individual expectations for each student based on that student's placement on the pretest(s) of interest. Lower scoring students have lower predicted scores. Higher scoring students have higher predicted scores.
- 7.5 Only one year of historical data are used. That is a stepwise regression approach is used on the residuals of multiple predictors so that in most cases satisfactory prediction is achieved without having to go back more than one year. This maintains the degrees of freedom associated with the equations since, in an urban district, each additional year of data used significantly reduces the degrees of freedom associated with the equations.

8.0 Pre-Honors, Honors, and Advanced Placement Courses

MIDDLE SCHOOL	HIGH SCHOOL	HIGH SCHOOL (cont.)
	English Courses	Math Courses
1105 - English I PH	* 1290 - English I PH	* 2556 - Algebra I PH
2555 - Algebra I PH	* 1291 - English I PH 1	* 2565 - Algebra II PH
2566 - Geometry	* 1292 - English I PH 2	* 2650 - Geometry PH
	* 1305 - English II PH	* 2651 - Geometry PH 1
	* 1306 - English II PH 1	* 2652 - Geometry PH 2
	* 1307 - English II PH 2	2725 - Linear Alg - H
	* 1405 - English III PH	2726 - Linear Prgrm H
	* 1406 - English III PH 1	2809 - Trigonometry H
	* 1407 - English III PH 2	2812 - Elem. Analysis H
	1503 - Eng IV H ACD-BL	* 2840 - Pre Calc H
	1504 - Eng IV H AC Comp	2900 - Cal W/AG AP
	1505 - English IV/AP	2901 - Cal W/AG AP 1
	1506 - English IV/AP 1	2902 - Cal W/AG AP 2
	1507 - English IV/AP 2	* 2910 - Calculus II
	1510 - Eng IV H Acd Hum	* 2911 - Calculus II 1
	1511 - Eng IV H Acd WL	* 2912 - Calculus II 2
	1512 - Eng IV H Acd LG	2926 - Number Theory
	1964 - Debate III H	2927 - Prob & Stats H
	Social Studies Courses	Science Courses
	* 2100 - World History PH	* 3155 - Biology I PH
	* 2101 - World History PH 1	* 3156 - Biology I PH 1
	* 2102 - World History PH 2	* 3157 - Biology I PH 2
	* 2310 - U.S. Govt. PH	3200 - AP Biology II
	2312 - U.S. Govt. AP	3201 - AP Biology II 1
	* 2330 - U.S. Hist 9 PH	3202 - AP Biology II 2
	* 2331 - U.S. Hist 9 PH 1	* 3225 - Chemistry I PH
	* 2332 - U.S. Hist 9 PH 2	* 3226 - Chemistry I PH 1
	* 2355 - Economics PH	* 3227 - Chemistry I PH 2
	2357 - Economics AP	3235 - AP Chemistry II
	2435 - Psychology AP	3262 - AP Chemistry II 1
	2450 - U.S. Hist AP	3237 - AP Chemistry II 2
	2451 - U.S. Hist AP 1	* 3245 - Physics IH
	2452 - U.S. Hist AP 2	* 3246 - Physics IH 1
	2455 - Euro. Hist AP	* 3246 - Physics IH 2
	2456 - Euro. Hist AP 1	3250 - AP Physics II
	2457 - Euro. Hist AP 2	3251 - AP Physics II 1
		3252 - AP Physics II 2
		3270 - Phys & Anatomy II
		3271 - Phys & Anatomy H1
		3272 - Phys & Anatomy H2

Pre-Honors, Honors, and Advanced Placement Courses, cont.

HIGH SCHOOL (cont.)	HIGH SCHOOL (cont.)
Foreign Lang. Courses	Foreign Lang. Courses
3645 - French III H	3915 - Adv. Spn Spk I H
3646 - French III H 1	3916 - Adv. Spn Spk I H 1
3647 - French III H 2	3917 - Adv. Spn Spk I H 2
3710 - German III H	3945 - Spanish III H
3711 - German III H 1	3946 - Spanish III H 1
3712 - German III H 2	3947 - Spanish III H 2
3725 - Adv. German IH	3957 - Adv. Span. III
3726 - Adv. German II AP	3958 - Adv. Span. I H
3727 - Adv. German III	3959 - Adv. Span. II AP
3740 - Greek III H	4005 - Japanese III H
3741 - Greek III H 1	4006 - Japanese III H 1
3742 - Greek III H 2	4007 - Japanese III H 2
3745 - Adv. Greek IH	4010 - Adv. Japnse I H
3746 - Adv. Greek IH 1	4011 - Adv. Japnse I H 1
3747 - Adv. Greek IH 2	4012 - Adv. Japnse I H 2
3760 - Hebrew III H	4013 - Adv. Japnse II
3761 - Hebrew III H 1	4014 - Adv. Mnd Chin I H
3762 - Hebrew III H 2	4015 - Adv. Mnd Chin I H 1
3765 - Hebrew III H	4016 - Adv. Mnd Chin I H 2
3766 - Hebrew III H 1	
3767 - Hebrew III H 2	Computer Sci. Courses
3780 - Italian III H	• 4040 - Comptr Sci I H
3781 - Italian III H 1	• 4041 - Comptr Sci I H 1
3782 - Italian III H 2	• 4042 - Comptr Sci I H 2
3785 - Adv. Italian H	4043 - Comptr Sci II H
3786 - Adv. Italian H 1	4044 - Comptr Sci II H 1
3787 - Adv. Italian H 2	4045 - Comptr Sci II H 2
3825 - Latin III H	
3826 - Latin III H 1	Art Courses
3827 - Latin III H 2	4420 - Art History III AP
3837 - Adv. Latin III	
3838 - Adv. Latin III 1	CDC Skyline
3839 - Adv. Latin III 2	• 6764 - CDC Pre Calculus
3850 - Mand Chin. III H	6765 - CDC Calculus AP
3851 - Mand Chin. III H 1	6806 - CDC Chem II AP
3852 - Mand Chin. III H 2	• 6811 - CDC Physics I
3880 - Russian III H	6812 - CDC Physics II AP
3881 - Russian III H 1	
3882 - Russian III H 2	
3885 - Adv. Russian I H	
3910 - Span Spk III H	
3911 - Span Spk III H 1	
3912 - Span Spk III H 2	

9.0 Weights of Outcome Variables

For the 1992-93 school year, outcome variables will have the following weights:

GRADE	1	2	3	4	5	6	7	8	9	10	11	12
ITBS												
Reading	2	2	2	2	2	2	2	2	4	•	•	•
Math	2	2	2	2	2	2	2	2	4	•	•	•
Promotion Rate:	1 per school						1	•	•	•	•	•
Attendance	1	1	1	1	1	1	1	1	1	1	1	1
TAAS												
Reading	•	•	5	5	5	5	5	5	•	12	•	•
Writing	•	•	•	5	•	•	•	5	•	12	•	•
Math	•	•	4	4	4	4	4	4	•	12	•	•
Science	•	•	•	1	•	•	•	1	•	•	•	•
Social Studies	•	•	•	1	•	•	•	1	•	•	•	•
SABE	2	2	2	2	2	2	•	•	•	•	•	•
ACP												
Language Arts	•	•	•	•	•	•	•	•	2	2	2	2
Math	•	•	•	•	•	•	•	•	2	2	2	2
Social Studies	•	•	•	•	•	•	•	•	2	2	2	2
Science	•	•	•	•	•	•	•	•	2	2	2	2
ESOL	•	•	•	•	•	•	•	•	2	2	2	2
Reading	•	•	•	•	•	•	•	•	2	•	•	•
World Language	•	•	•	•	•	•	•	•	2			
Graduation Rate	•	•	•	•	•	•	•	•	5			
SAT % Tested	•	•	•	•	•	•	•	•	•	5		
SAT Score	•	•	•	•	•	•	•	•	•	4		
Dropout Rate	•	•	•	•	•	•	1	1				
Accelerated Courses	•	•	•	•	•	•	5	4				
ACP Honors Courses	•	•	•	•	•	•	•	•	8			
Advanced Diploma Plan	•	•	•	•	•	•	•	•	3	2	•	•
PSAT % Tested	•	•	•	•	•	•	•	•	3			
PSAT Score	•	•	•	•	•	•	•	•	2			